IN THE CLAIMS

Please amend the claims as follows. This listing replaces all prior versions.

1 (Currently amended) A method for the targeted insertion of a nucleotide of interest into a specific chromosomal site within a plant cell, said method comprising the steps of:

(a) providing a plant cell having a heterologous target site on a chromosome thereof, wherein said target site is flanked on one side by a single recombination site, which single recombination site is recognized by a site-specific recombinase enzyme; and then

(b) transforming said plant cell with an *Agrobacterium* transformation vector carrying a nucleotide sequence of interest, wherein said nucleotide sequence of interest is flanked by a pair of identical recombination sites, one on each side thereof, that correspond to the single recombination site of said target site, so that said nucleotide of interest *(i)* is ~~*(i)*~~ randomly inserted into a chromosome of said plant cell, *(ii)* generates an excision circle therefrom, and then *(iii)* is inserted into said chromosome at said target site;

wherein said transforming step is carried out in the presence of a site-specific recombinase effective to carry out recombination at said recombination site and insert said nucleotide of interest into said chromosome at said target site.

2-6. (Canceled)

7 (Currently amended) ~~A method according to~~The method of claim 1, wherein said single heterologous target site is inserted into said chromosome by *Agrobacterium*-mediated transformation.

8. (Currently amended) ~~A method according to~~The method of claim 1, wherein said recombinase is an integrase.

9. (Currently amended) ~~A method according to~~The method of claim 1, wherein said recombinase is selected from the group consisting of FLP recombinase, Cre recombinase, and recombinase R.

10. (Currently amended)~~A method according to~~The method of claim 1, wherein said recombinase is FLP recombinase, and said recombinase sites are FLP recombination target (FRT) sites.

11. (Currently amended) ~~A method according to~~The method of claim 1, wherein said plant cell is a dicot plant cell.

12 (Currently amended) ~~A method according to~~The method of claim 1, wherein said plant cell has a genome size greater than 500 megabases.

13. (Currently amended) ~~A method according to~~The method of claim 1, ~~wherein said transforming step is~~ carried out *in vitro* on a population of cells, ~~a first subpopulation of which includes said cell transformed in step (b) and a second subpopulation of which are not transformed,~~ whereby a first subpopulation of cells in said population of cells is transformed with said *Agrobacterium* transformation vector and a second subpopulation of cells of said population of cells is not transformed with said *Agrobacterium* transformation vector and said transforming step is followed by the steps of:

(c) selecting at least one transformed cell from said first subpopulation of cells; and then

(d) regenerating a plant from said ~~selected~~transformed cell of step (c).

14. (Currently amended) ~~A method according to~~The method of claim 13, wherein said selecting step is carried out by contacting said population of ~~plant~~ cells ~~to~~with an antibiotic and wherein said transforming step is carried out with ~~a~~an Agrobacterium transformation vector that carries a selectable marker, which selectable marker imparts resistance to said antibiotic to said transformed cells.

15. (Previously presented) A plant cell produced by the method of claim 1.

16. (Currently amended) A plant produced by ~~a method according to~~the method of claim 1.

17. (Currently amended) Seed produced from ~~a plant according to~~the plant of claim 16.

18. (Currently amended) Pollen produced from ~~a plant according to~~the plant of claim 16.